



A.D. 1867, 29th JUNE. N° 1907.

Machinery for Making Tapers.

LETTERS PATENT to Joseph James Lane, of Cranbrook Place, Old Ford Road, in the County of Middlesex, Engineer, for the Invention of
"IMPROVED MACHINERY FOR MAKING TAPERS."

Sealed the 26th November 1867, and dated the 29th June 1867.

(Void by reason of the Patentee having neglected to file a Specification in pursuance of the conditions of the Letters Patent.)

PROVISIONAL SPECIFICATION left by the said Joseph James Lane at the Office of the Commissioners of Patents, with his Petition, on the 29th June 1867.

I, JOSEPH JAMES LANE, of Cranbrook Place, Old Ford Road, in the County of Middlesex, Engineer, do hereby declare the nature of the said Invention for "IMPROVED MACHINERY FOR MAKING TAPERS," to be as follows:—

This Invention relates, first, to a novel arrangement of machinery for coating cotton strands with wax or a composition for the manufacture of tapers; and, secondly, to the cutting up of the coated strands into lengths
10 suitable for forming matches. Instead of driving by hand and independently the drums or cylinders which are employed for drawing the strands to and fro.

Lane's Improved Machinery for Making Tapers.

through the melted wax or composition, I use the following contrivance for effecting the like object. On opposite sides of the vessel containing the melted wax or composition I mount horizontally in a suitable frame a cylinder of a size equal to receiving, say, a dozen strands; these cylinders I set sufficiently far apart to enable the coating taken up by the strands to harden during 5 the passage of the strands from the vessel to the winding-on cylinder. The cylinders are each driven by the friction of a roller which bears upon one end thereof; these rollers are mounted so as to slide on a horizontal or radial shaft fitted with a feather, and they are severally embraced by a sliding plate carried by the framing, and employed to traverse the friction roller along its 10 shaft, and thus increase or decrease its driving power according as the tapers accumulate upon or are withdrawn from either cylinder. Motion is given from any first mover to the feathered shafts carrying the rollers through bevil gears and shafting which connect the motions of the two cylinders together. The sliding plate is fitted with a lug, which is tapped to receive the end of a 15 traversing screw shaft having its bearing on the end of the framing; keyed to this shaft is a worm wheel, which takes into a worm keyed on the axle of the cylinder. As the cylinder is driven by the friction roller the worm will through the worm wheel drive the traversing screw, and cause it to move the sliding plate and with it the friction roller, thus diminishing or increasing the 20 rate of rotation of the cylinder, as desired. The mechanism is so arranged that as the tapers accumulate on one cylinder the speed of rotation of that cylinder will decrease, and the speed of the other cylinder will increase, and thus the taper strands will be kept at a uniform tension or nearly so. To facilitate the even laying of the strands on the cylinders, each cylinder is provided 25 with a transverse screw for traversing a guide plate to and fro, and delivering the strands on to the winding-on cylinders; these screws are driven by pulleys and bands from the cylinder axle. To keep the cylinders in contact with the friction rollers screws are provided to bear upon one end of their axles and set them up as required. In order to cut up the coated strands or tapers to 30 an even or uniform length I lay the ends of any given number of strands in a kind of trough with open ends set opposite an adjustable stop or gauge; this gauge consists simply of a plate with an edge turned up at right angles for the ends of the tapers to abut against while being cut. An adjusting screw passed freely through a lug fixed on the cutting table enters the thread of a 35 tapped lug fitted to the sliding plate, and a handle fitted to the plate completes the gauge. When the tapers are moved forward so that their ends project beyond the trough a distance about equal to the length to be cut off, the gauge is then brought smartly up as far as the screw will allow it to

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move, and by striking the ends of the tapers it will adjust them to an uniform position; a pressing piece operated by the hand or by the foot is then brought down upon the tapers and caused to hold them firmly, and while so held a hinged blade is brought down flush with the end of the trough, and
5 caused to cut off the protruded lengths of tapers.

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